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ABSTRACT

To determine whether college students could be used as members of a micro-class without reducing the value of the micro-teaching experience, two randomly selected groups of student teachers were selected to make four presentations. Group I (six student teachers) made presentations to only high school seniors while Group II (five student teachers) made their first and last presentations to high school students and their second and third to college students. All presentations were video-taped, rated by members of the micro-class using a pretested evaluation instrument, and then reviewed and used to make changes in subsequent presentations. Statistical analysis did not indicate that micro-classes composed of high school students were more effective than micro-classes composed of college students in terms of improving the quality of the student teachers' presentations. However, subjective reactions provided by the student teachers indicated a preference for working with high school students. They believed that while high school students represented a more realistic teaching situation, the evaluation of techniques should be made by their peers or professionally trained educators. The evaluation instrument is appended. (Author/SB)

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THE RELATIVE EFFECTIVENESS OF TWO SOURCES OF FEEDBACK ON TEACHERS IN THE MICRO-TEACHING SITUATION

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The Authors

SUMMARY

One of the problems encountered when a teacher education institution decides to implement a micro-teaching program is to determine the kind of students to serve as members of the micro-classes. While high school students are most representative of the real class situation, they typically are not available when micro-teaching classes are being given. On the other hand, college students are readily available but they represent an atypical experience for students preparing to teach elementary or secondary students.

The Department of Home Economics Education, University of Minnesota, designed this study to determine whether college students can be used as members of a micro-class without reducing the value of the micro-teaching experience. Besides testing for differences between the ratings of student teachers obtained from high school and college students, other goals of the study were to determine whether micro-teaching experience increases student teacher effectiveness and whether student teachers value the micro-teaching experience.

The design of the study required that two randomly selected groups of student teachers make a series of four presentations, dealing with two different concepts, to a group of ninth grade students or a group of college seniors. One group of student teachers made presentations to only high school students; the second group made their first and last presentation to high school students and their second and third presentation to college students. All presentations were video-taped, and rated by members of the micro-class, then the video-tapes and ratings were reviewed and used to make changes for subsequent presentations.

A prestudy using both college students and high school students, was conducted to test the reliability and sensitivity of an evaluation instrument. The results of the study indicated that the instrument was (a) reliable, (b) capable of yielding a wide range of responses, and (c) capable of discriminating among qualitatively different instructional techniques.

The statistical analysis of the data did not indicate that micro-classes composed of high school students were more effective than micro-classes composed of college students in terms of improving the quality of the student teachers' presentations. However, subjective reactions provided by the student teachers indicated a preference for working with high school students. They believed that while high school students represented a more realistic teaching situation, the evaluation of the techniques used by student teachers should be made by either their peers or by professionally trained educators.

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INTRODUCTION

BACKGROUND OF THE PROBLEM

One of the basic aims of teacher education is to continuously improve the quality of teachers. Various technical advances and innovative techniques have been developed to facilitate this aim. Among these are video-taping and micro-teaching. Micro-teaching is perceived as a scaled-down version of the actual teaching situation. Typically, a teacher is to present a complete concept to a class of three to five students in about five to eight minutes. These lessons are often video-taped so the teacher has an immediate source of feedback for content and self analysis as well as for analysis by and discussion with a supervisor.

As with all new techniques, questions do arise. The most appropriate sources of feedback, length of sessions, number of sessions, and composition of the micro-class are among the variables potentially affecting the efficiency of a micro-teaching program.

Of particular concern to the Home Economics Education Department of the University of Minnesota was the question of the appropriate composition of the micro-class. High school students would best simulate the real class situation, but high school students are not always available. College students are available, but do they serve the purpose of a micro-teaching class effectively?

In previous and ongoing micro-teaching programs, both types of class members have been used. Stanford University, the originator of the micro-teaching concept, has used high ability high school students to serve as the micro-class and to evaluate the teacher (1). The Home Economics Education Department of Texas Technological College recently used a group of ninth grade students in their micro-teaching study (3). Brigham Young University has established a large-scale micro-teaching program in which the classes are composed of all college students (2).

While it is obvious that both high school and college students have been used for micro-teaching classes, the major question of whether college or high school students represent the most effective micro-teaching situation is yet to be answered.

STATEMENT OF THE PROBLEM

The Home Economics Education Department of the University of Minnesota designed this study to determine whether college students can be used as the micro-class without reducing the value of the micro-teaching experience. More specifically, the objectives of the study were to answer the following questions:

1. Are there differences between two groups of student teachers, one of whom practices using a micro-class of high school students and

the other who uses a micro-class of college students, as measured by the ratings of a group of high school students?

2. Does the micro-teaching experience increase student teacher effectiveness as measured by the ratings of a criterion group of high school students?

3. Are there differences between the ratings given by high school students and college students to student teachers on (a) their first practice presentation; and (b) their second practice presentation?

4. Do student teachers have preferences or reactions to (a) the type of micro-class they taught; (b) the type of person rating them; (c) the value of video-taping their presentations; and (d) the value of the total experience?

There is certainly no one method of determining how effective a person is as a teacher. Barr (2) has described some of the advantages and disadvantages of various techniques for assessing teacher effectiveness. No technique is without its limitations. For this study, evaluation by high school students was selected as the most appropriate technique on the assumptions: (a) a teacher must be able to communicate with all the students in her classroom, and (b) a high school student is capable of responding to varying levels of teacher effectiveness.

The selection of a method for evaluating student teachers was made after considering the ultimate use of the results of the study. The student teachers of concern are being prepared for employment in the secondary school. They must, therefore, be able to respond to high school students. They must be able to organize the material, speak the language, and present concepts in a manner that is meaningful to high school students.

THE PRESTUDY

DEVELOPMENT OF THE INSTRUMENT

The goal in developing the evaluation instrument was to produce a short series of items that could be easily responded to by ninth grade students without special training. The ratings had to have meaning for the ninth grade students and be of instructive value to the student teacher.

One item on the instrument was devoted to each of the following aspects or outcomes of the teaching act: (a) concept development as measured by student understanding; (b) organization of the material; (c) attitude of the teacher; (d) concern for student comprehension; (e) student participation; (f) word choice for class level; (g) vocal presentation; and (d) student interest.

In developing the rating scale, use of the adjectives "good" and "bad" were avoided. Rather, the rater was instructed to use a three rating

on a five point scale to correspond to her personal concept of an "average teacher." This type of scale was employed to allow the student freedom to respond quickly, without regard to some externally defined standard. Appendices A and B contain the directions for completing the ratings and the evaluation instrument, respectively.

TESTING THE INSTRUMENT

Before the main study was conducted, the instrument was tested to determine whether:

1. high school and college students would give a wide range of ratings to different teaching styles.

2. high school and college students were sensitive to variations in teaching style.

3. high school and college students would give similar distributions of ratings.

4. the reliability (test-retest) of the instrument was satisfactory.

Ten high school students from the ninth grade home economics classes of Murray High School in St. Paul and eight college students from the Home Economics Education Department of the University of Minnesota were randomly selected to participate in the prestudy. Two University instructors were then selected to give three, eight minute lessons to the combined group of students. Neither instructor was known personally by any of the high school or college students.

To insure variability in the teaching, the instructors were directed to present three topics using three different "teaching styles." Each "teaching style" required the teacher to be ineffective with respect to certain aspects of the teaching act and as effective as possible in the remaining areas. Table 1 presents a listing of emphases for each style.

Table 1

TEACHING STYLE FOR THE PRESTUDY

Style I	
Positive Emphasis	**Negative Emphasis**
Development of the topic	Student response
Voice and delivery	Student learning
Word and sentence	Enthusiasm for the material

(Table 1 continued)

Style II

Student response
Student learning
Enthusiasm for the material

Organization
Development of the topic

Style III

The choice of emphasis was left to the individual teacher.

All of the presentations were video-taped. The two teachers alternated in their presentations. They were rated immediately after each presentation by both the high school and college students. Each teacher taught each topic only once and each teacher used each "teaching style" only once. Table 2 shows the ordering of teacher, topic, and "teaching style" employed in the prestudy.

Table 2

ORDERING OF TEACHER, TOPIC, AND TEACHING STYLE FOR THE PRESTUDY

Lesson	Teacher (A or B)	Topic (1, 2, or 3)	Style (I,II or III)
1	A	1	I
2	B	2	III
3	A	3	III
4	B	1	II
5	A	2	II
6	B	3	I

Ratings on each of the six presentations, using the evaluation form in Appendix B, were collected from the ten high school students and eight college students. One week later, the ten high school students viewed and rerated each of the video-tapes of the same six presentations. Comparisons between live and video-taped lessons were made to test the stability of the ratings.

FINDINGS OF THE PRESTUDY

In order to determine whether high school and/or college students would provide a wide range of ratings on the evaluation instrument, the frequency distribution of their ratings, given to all of the items in the instrument, was determined. Table 3 presents that information.

Table 3

FREQUENCY DISTRIBUTION OF TOTAL RATINGS GIVEN TO SIX LESSONS BY GROUPS OF HIGH SCHOOL AND COLLEGE STUDENTS

	High School Students					College Students				
Ratings	1	2	3	4	5	1	2	3	4	5
Frequency Totals	184	163	78	37	18	144	110	70	40	18

A chi square goodness of fit test was made to compare the frequency distributions of the total number of ratings given by the high school students and the college students. No statistically significant difference was found between them at the .05 level ($\chi^2 = 4.637$). These findings suggest that both high school and college students can respond with a wide range of ratings on the evaluating instrument, and that the distribution of their ratings are reasonably similar.

Table 4

OBSERVED FREQUENCY DISTRIBUTIONS OF RATINGS GIVEN BY GROUPS OF HIGH SCHOOL AND COLLEGE STUDENTS TO THREE TEACHING STYLES

	High School Student Ratings					College Student Ratings				
Teaching Styles	1	2	3	4	5	1	2	3	4	5
I	29	67	41	16	7	29	30	36	25	15
II	72	49	24	9	6	55	53	15	5	0
III	83	47	13	12	5	67	27	21	10	3
Totals	184	163	78	37	18	144	110	72	40	18

The chi square values computed for high school and college students were 49.31 and 78.81. Both of these values were statistically significant at the .001 level, suggesting that high school and college students can effectively use the evaluation instrument to discriminate among different qualities of teaching styles.

The data shown in Table 4 were transformed into cumulative percent and cumulative percent differences and shown in Table 5 for the purpose of comparing the high school and college student's distributions to each of the teaching styles.

Table 5

CUMULATIVE PERCENT DISTRIBUTION OF RATINGS GIVEN BY HIGH SCHOOL AND COLLEGE STUDENTS TO EACH OF THREE TEACHING STYLES

	Style I			Style II			Style III		
	H.S.	Coll.	Diff.	H.S.	Coll.	Diff.	H.S.	Coll.	Diff.
1	1.000	1.000	0.000	1.000	1.000	0.000	1.000	1.000	0.000
2	.820	.828	.008	.550	.570	.02	.481	.475	.006
3	.400	.593	.193	.243	.156	.088	.188	.265	.077
4	.144	.312	.168	.094	.039	.059	.106	.102	.004
5	.044	.117	.073	.038	.000	.038	.031	.022	.009
Total	1.000	1.000		1.000	1.000		1.000	1.000	

The Kolmogarov-Smirnov large two-sample test was used to compare the distributions of ratings for high school and college students for each of three teaching styles. The largest difference for Style II and Style III was .088 and .077 respectively; neither was statistically significant at the .10 level. However, the largest observed difference for Style I (.193) was statistically significant at the .001 level; in this case college students were more critical of Style I presentations than were high school students.

The reliability of ratings was assessed by computing Pearson Product-Moment Correlations between the ratings of high school students for live and for the video-taped presentations of the same lesson. The video-taped presentations were viewed and rated by the high school students one week after they had rated the live presentations. A correlation was computed between the ratings given to each of the six presentations.

The correlations for the six presentations were respectively: (1) .502; (2) .643; (3) .702; (4) .761; (5) .760; and (6) .887. The average correlation for the six presentations was 0.719. Note that, with practice, the stability of high school students' ratings increased to almost .90. This was considered satisfactory reliability for the purposes of the study.

On the basis of the tests conducted, it was concluded that high school and college students, when using the evaluation instrument, were (a) capable of providing a wide range of responses, (b) sensitive to differences in teaching styles, (c) responding in a fairly similar manner, although the college students were apt to be somewhat more critical than high school students, and (d) capable of reliable responses.

PROCEDURES OF THE STUDY

DESIGN

The general design for this experimental study required that two groups of home economics student teachers make a series of four presentations to micro-classes composed of either a group of ninth grade high school students or a group of college seniors. All of the presentations were video-taped and rated by the students in the micro-classes. Besides providing the two groups of student teachers the opportunity to make video-taped presentations, the design of the study made it possible to (a) make several comparisons between the ratings obtained from high school and college students, (b) make comparisons between the two groups of student teachers, and (c) assess the value of the micro-teaching experience.

POPULATION AND SAMPLE

The experimental population of college students consisted of twenty-four college seniors who were enrolled in a teaching methods course at the University of Minnesota during the Spring quarter of 1969. Eight of the students were randomly assigned to serve as members (raters) in the micro-classes. Of the remaining students in the class, six were randomly assigned as student teachers to Group I (they taught only high school students), and five were randomly assigned as student teachers to Group II (they taught both high school and college students).

The population from which twelve ninth grade high school students were selected to serve as members (raters) of micro-classes consisted of the ninth grade home economics students attending Murray High School in Saint Paul, Minnesota. These students were paid $1.25 an hour to rate presentations made by student teachers. To encourage their cooperation, the high school students were told that payment was contingent upon their attendance at all micro-teaching sessions.

The high school and college students selected to serve as members of the micro-classes were given special instructions for rating the student teacher presentations. Each rater was assigned an identification number and was given a copy of the rating instructions and four copies of the rating instrument. They were encouraged to be frank and honest in their ratings because the student teachers they would be evaluating were preparing to become teachers and needed their constructive criticism.

A series of four eight minute video-taped presentations were shown to and rated by the members of the micro-classes (the tapes used were those developed for testing the evaluation instrument). After this "practice" period, additional questions were answered concerning the rating procedures and the use of the evaluation instrument.

LESSON CONTENT

The content for the presentations was selected by the individual student teachers. They were instructed to identify and then prepare a seven minute presentation for each of two concepts appropriate for ninth grade home economics students. They were encouraged to consider the language, organizational and other needs of ninth grade students while developing the two lessons.

Although four presentations were made by each student teacher, the content for the first three presentations was essentially the same; both groups of student teachers were given time to review the video-tapes and the ratings of previous lesson and to make changes for their subsequent presentations. The fourth presentation, however, dealt with a concept totally different from the first three presentations.

ADMINISTRATION

The study was conducted during the afternoon of two separate days. Table 6 shows the presentation sequence for the four lessons, together with the composition of the micro-classes for each of the two groups of student teachers.

Table 6

PRESENTATION SEQUENCE AND COMPOSITION OF MICRO-CLASSES FOR TWO GROUPS OF STUDENT TEACHERS

	Presentation Sequence			
	1 (Pretest)	2	3	4 (Posttest)
Student Teacher Group I	High School Students	High School Students	High School Students	High School Students
Student Teacher Group II	High School Students	College Students	College Students	High School Students

Table 6 indicates that student teacher - Group I made all four presentations to ninth grade high school students while student teacher - Group II gave their first (pretest) and fourth (posttest) presentation to high school students, and their second and third "practice" presentations to college students. The "treatments" for each of the student teacher groups was therefore determined by the composition of the micro-classes for the series of four presentations. Besides facilitating pre-post test comparisons of the ratings of high school students, the design also made it possible to compare the ratings of high school students with those of college students. None of the presentations was given to the same micro-class of high school or college students.

The first presentation was given the afternoon of the first day. Each student teacher was rated by high school students and the presentation was video-taped. Since the first presentation was to serve as a pre-test and "warm-up," student teachers were not provided an opportunity to review either the ratings or the video-tape. They were instructed not to interact with or talk to the high school students in the micro-class.

The remaining three lessons were given during the afternoon of the second day. The second presentation for both groups of student teachers dealt with the same content as the pretest lesson and was video-taped and rated by the designated micro-class (Group I - high school students, and Group II - college students). Immediately following the presentation, each group of student teachers was allowed thirty minutes to review the micro-class ratings on the evaluation form and the video-tape, and then make revisions in preparation for their third presentation.

The third presentation was given about thirty minutes after revisions had been made. Although student teacher Group I still made their presentation to high school students, and student teacher Group II made their presentation to college students, all of the students in the micro-classes were rotated in order to obtain unbiased evaluations. The presentations were video-taped and ratings were again obtained. Both groups were then given thirty minutes to review their earlier presentations and to use what they had learned to make any revisions in their next presentation, which would deal with a new (the second) concept.

The fourth (post-test) presentation, dealing with the <u>second</u> concept, was given by both groups of student teachers the same afternoon as their second and third presentations. Both groups made presentations to a micro-class composed only of high school students, but the students had been rotated to reduce the possibility of obtaining biased evaluations. Although the presentations were video-taped and rated, time limitations prevented immediate feedback to student teachers. Each student teacher was given an opportunity to view the video-tape at a later date.

During the week which followed the completion of the presentations, participating college students were asked to complete an opinionnaire about the study. These opinionnaires were completed on a voluntary basis; respondents' names were not required. The purpose of these questions was to obtain subjective information concerning (a) preferences for micro-classes, and (b) the value of micro-teaching.

ANALYSIS OF THE DATA

The Mann-Whitney U test, a powerful non-parametric statistical test, was utilized to compare the difference between pre-post evaluation ratings and the ratings of high school and college students. Since the Mann-Whitney U test requires only that measures be at least ordinal, it was appropriate for this study. In addition, the Mann-Whitney U test is suitable for data analysis involving small sample sizes.

The data were tabulated, card punched and submitted to the IBM 360 computer for analysis. Tests of significance were made with the use of a desk calculator.

FINDINGS

The purpose of this study was to determine whether the effectiveness of the micro-teaching experience was jeopardized by using college students for micro-classes instead of high school students. In order to provide an answer to this problem, four major questions were posed. The data related to each question is presented below:

Question #1: Are there differences between two groups of student teachers, one of whom practices using a micro-class of high school students and the other who uses a micro-class of college students, as measured by the ratings of a group of high school students?

Each of the two groups of student teachers made both their initial and final presentations to a group of high school students. The initial presentation was the pretest and the final presentation was considered the posttest. Table 7 shows the mean ratings given by the high school student micro-classes to individual student teachers for the pretest and posttest. The Mann-Whitney U test was used to test the difference between the two groups in terms of the distribution of mean ratings given by micro-class students.

Table 7

MEAN RATINGS AWARDED INDIVIDUAL STUDENT TEACHERS FOR PRETEST AND POSTTEST MICRO-TEACHING PRESENTATIONS

	Pretest		Posttest	
	Group I	Group II	Group I	Group II
	1.344	1.313	1.344	1.333
	1.406	1.594	1.344	1.375
	1.406	1.688	1.469	1.512
	1.406	1.781	1.531	1.513
	1.625	1.875	1.531	2.656
	2.000	--	1.719	--
Grand Mean	1.381	1.650	1.490	1.678

The differences between the distribution of mean ratings shown on Table 7 would be expected by chance about thirty times in one hundred (P = .268) for the pretest, and almost fifty times in one hundred (P = .465) for the posttest. This finding suggests that the ratings of the micro-class of high school students for the two groups of student teachers should not be considered different for either the pretest or the posttest.

Question #2: Does the micro-teaching experience increase student teacher effectiveness as measured by the ratings of high school students?

Table 7 shows the mean pretest and posttest ratings received by each student teacher. The Mann-Whitney U test was used to make separate comparisons between the distribution of mean pre-posttest ratings for each group of student teachers. In the case of Group I, the difference would be expected by chance about fifty times in one-hundred (P = .531); for Group II, the difference would be expected by chance about twenty-five times in one-hundred (P = .274). These findings suggest that neither group of student teachers had any appreciable change in the distribution of their ratings as a result of the experiment.

Question #3: Are there differences between the ratings given by high school students and college students to student teachers on (a) their first practice (second video-taped) presentation and (b) their second practice (third video-taped) presentation?

Table 8 shows the mean ratings by individual student teacher for both student teacher groups on their two practice (second and third) presentations.

Table 8

MEAN RATINGS AWARDED INDIVIDUAL STUDENT TEACHERS FOR THEIR TWO PRACTICE PRESENTATIONS

Second Presentation		Third Presentation	
Group I	Group II	Group I	Group II
1.125	2.094	1.000	1.792
1.333	2.156	1.344	1.958
1.406	2.292	1.344	2.000
1.750	2.542	1.531	2.375
2.375	2.906	1.563	2.417
3.042		1.958	
Grand Mean 1.838	2.398	Grand Mean 1.146	2.108

The Mann-Whitney U test was used to compare the ratings given by high school and college micro-classes to the two practice presentations. While the difference between the average ratings awarded by college and high school micro-classes for the second presentation was not statistically significant (P = .120), the difference between their ratings for the third presentation was statistically significant (P = .009). College students in micro-classes appear to be somewhat more critical of student teachers than high school students.

Question #4: Do student teachers have preferences or reactions to (a) the type of micro-class they taught; (b) the type of person rating them; (c) the value of video-taping their presentation; and (d) the value of the total micro-teaching experience?

An analysis of the responses given by the participating student teachers to an opinionnaire revealed that they held definite preferences for and reactions to the micro-teaching experience. Of the eleven student teachers responding to the opinionnaire, all indicated that they preferred working with a micro-class composed of high school students rather than college students. Some of the reasons given were: "They (the college students) know the subject matter." "College students have difficulty in lowering themselves in age to think like ninth graders, and even if they can remember back that far, the times have certainly changed the high school girls' attitudes." "I think the real learning experience comes when we are put into a situation that is as near as possible to the real thing!" The major criticism seemed to revolve around the issues that either (a) teaching college students is atypical of the teaching role for which they are preparing, or (b) student teachers are reluctant to make presentations to a group of peers.

Although preferences for teaching micro-classes of high school students was unanimous, preference for type of rater was not. The large majority of the student teachers wanted the reactions of high school students; a few felt that college students were more critical and preferred this source of evaluation. On the other hand, some of the student teachers would have liked ratings from a college supervisor. In other words, while the student teachers preferred making presentations to high school students, some also wanted the more critical evaluation of either their peers or other professionally trained educators.

All of the student teachers felt that the video-tape of themselves was of benefit. In addition, they felt that participation in the micro-teaching study was helpful, and that it was of sufficient value to justify the time and work required for participation.

DISCUSSION

CONCLUSIONS AND LIMITATIONS

The study supports four main conclusions. These conclusions, and the limitations of the study that have bearing on them, will be discussed in the following paragraphs.

First, the statistical analysis of the data does not indicate that a micro-class composed of high school students is more effective than a micro-class of college students in helping instructors improve certain teaching techniques; in fact, neither group made any significant gain in teaching effectiveness. One limitation of the study that would explain this conclusion is the length of the treatment; it is quite possible that either a greater number of practice teaching sessions, or longer lessons,

would have resulted in greater changes in teaching techniques. Another very important factor was that the raters were not sufficiently critical of the teachers on the first presentation (pretest), or that the student teachers were, indeed, exceptional. The mean ratings were all 2.00 or above. Thus, with a maximum rating of 1.00, there was little room for improvement. Finally, the rating instrument may not be sufficiently sensitive or comprehensive; the items are broad and deal only with technique. Changes in teacher attitude and psychological set toward teaching might also be valid results of the micro-teaching experience, but these were not measured in the study.

Second, college students are more critical in their ratings of student teachers than are high school students. The college students selected for the micro-classes were seniors in the College of Education and had experienced training on analysis of teaching technique. It is reasonable that they would be critical. It is likely that high school students are generally more capable of judging the content of a lesson than they are of judging the technique used in presenting the lesson. By replicating the study and using a group of freshmen or sophomore college students, the likelihood of this assumption could be tested.

Third, the college students involved in the study as teachers preferred working with a micro-class of high school students. Although some of the student teachers wanted a more critical evaluation of their performance, they wanted most an opportunity to work with the students whom they were ultimately going to face in a real classroom. It would appear that the "realism" of the teaching situation is of major concern to student teachers; critical evaluations are of secondary importance.

Fourth, the student teachers agreed that viewing video-tapes of their presentations was helpful and worthwhile. These tapes were a source of self analysis and criticism that supplemented the feedback from the micro-classes.

RECOMMENDATIONS

As a result of the study, the following recommendations seem warranted.

1. The study should be replicated with an alternate criterion measure. This measure should take into consideration the possible attitudinal changes of the teacher.

2. Education departments should consider the psychological implications of working with high school students, as opposed to college students, when developing a micro-teaching program.

3. The effect of varying lengths of the micro-teaching experience (as well as the type of college and high school students used for micro-classes) should be more fully investigated.

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APPENDIX A

When ranking the teachers on each item, use these descriptions as guidelines.

On this item the teacher--

1. was the type of teacher that helps me learn more than any other type of teacher.

2. was more effective, meaningful, and helpful than I think an average teacher is.

3. was similar to what I think an average teacher is.

4. was not as effective, meaningful, and helpful as I think an average teacher is.

5. needs to work to become the type of teacher that holds my attention and helps me learn.

APPENDIX B

Rater No. _____ Evaluation Form Session No. _____
Teacher No. _____

After the presentation,rate the teacher on the following items by circling the appropriate number. Put any specific comments that you feel will help the teacher improve her presentation on the back of this paper.

1. After the lesson, I think I understand the subject matter of the presentation.

   1 2 3 4 5

2. The order that the ideas were presented in helped me understand the material and did not confuse me.

   1 2 3 4 5

3. The teacher was interested in teaching and helping me learn.

   1 2 3 4 5

4. The teacher wanted to know if the class understood what she was saying and checked to make sure that we were following her ideas.

   1 2 3 4 5

5. The teacher encouraged me to express my ideas and to ask questions.

   1 2 3 4 5

6. I understood the words the teacher used.

   1 2 3 4 5

7. I like listening to the teacher and could easily hear her.

   1 2 3 4 5

8. I thought the teacher was interesting

   1 all of the time
   2 almost all of the time
   3 half of the time
   4 less than half of the time
   5 very little